

WHAT IS CLAIMED IS:

1 1. A service apparatus for a public and private mobile communication network in a
2 mobile communication service system including a public mobile communication network and a
3 private mobile communication network, the service apparatus comprising:

4 a device for connecting a public mobile communication service system to a private mobile
5 communication service system, and providing a mobile station in a predetermined service area with
6 both a public mobile communication service and a private mobile communication service, said
7 device including:

8 a base station transceiver subsystem located in the predetermined service area, for
9 forming a radio channel to the mobile station in the service area;

10 a communication path provider connected to the base station transceiver subsystem,
11 a base station controller in the public mobile communication service system and a mobile
12 switching center of the private mobile communication service system, said communication
13 path provider providing a communication path for transmitting data of the service system and
14 data of the base station transceiver subsystem; and

15 a call manager for distinguishing the public mobile communication service from the
16 private mobile communication service by analyzing data received through the
17 communication path, and performing call management for the corresponding service.

1 2. The service apparatus as claimed in claim 1, wherein the call manager distinguishes
2 the public mobile communication service from the private mobile communication service by
3 determining whether a specific identification code is added to a telephone number of the mobile

4 station.

1 3. The service apparatus as claimed in claim 1, wherein the call manager distinguishes
2 the public mobile communication service from the private mobile communication service based on
3 information previously set by time slot.

1 4. The service apparatus as claimed in claim 1, wherein the call manager distinguishes
2 the public mobile communication service from the private mobile communication service based on
3 registration information of a mobile subscriber requiring the private mobile communication service.

1 5. An apparatus for connecting a public mobile communication service system to a
2 private mobile communication service system, and providing a mobile station in a predetermined
3 service area with both a public mobile communication service and a private mobile communication
4 service, said apparatus comprising:

5 a base station transceiver subsystem located in the predetermined service area, for
6 forming a radio channel to the mobile station in the predetermined service area;

7 a communication path provider connected to a base station transceiver subsystem, a
8 base station controller in the public mobile communication service system and a mobile switching
9 center of the private mobile communication service system, said communication path provider
10 providing a communication path for transmitting data of the public mobile communication service
11 system, data of the private mobile communication service system and data of the base station
12 transceiver subsystem; and

13 a call manager for distinguishing the public mobile communication service from the

14 private mobile communication service by analyzing data received through the communication path,
15 and performing call management for the corresponding service.

1 6. The service apparatus as claimed in claim 5, wherein the call manager distinguishes
2 the public mobile communication service from the private mobile communication service by
3 determining whether a specific identification code is added to a telephone number of the mobile
4 station.

1 7. The service apparatus as claimed in claim 5, wherein the call manager distinguishes
2 the public mobile communication service from the private mobile communication service based on
3 information previously set by time slot.

1 8. The service apparatus as claimed in claim 5, wherein the call manager distinguishes
2 the public mobile communication service from the private mobile communication service based on
3 registration information of a mobile subscriber requiring the private mobile communication service.

1 9. The service apparatus as claimed in claim 5, wherein the communication path
2 provider comprises a high capacity inter-processor communication node board assembly.